

in the HIAIT group has been observed after 12 weeks of training and was bigger than the result achieved from MICT CR group 480.16 m, $P < 0.001$.

Conclusion.— 6MWT is a powerful prognostic predictor of the effectiveness of CR interventions and one-year survival of patients with chronic heart failure (CHF).

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Program for tolerance increase to external weather factors at patients with meteosensitivity and arterial hypertension

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Keywords: Arterial hypertension; Water-soluble antioxidant; Low-frequency magnetic therapy; Physical activities; Meteosensitivity

Background.— Adverse influence is rendered by environment factors, such as climatic and weather-meteorologic. Their sharp fluctuations can change the functional condition of the central and vegetative nervous system, disorders of blood coagulation, cardio haemodynamics, the oxygen balance of an organism at the persons inclined to raise meteosensitivity and to promote occurrence meteopathic reactions.

Methods.— We surveyed 250 men at the age 20–45 years. Complex: bioenergetic magnetic resonant therapy, baths with water-soluble antioxidant Mitofen, physical trainings with dosed out in steps accruing physical activities on cyclic and power training simulator, psychological and relax therapy, individual diet.

Results.— There were normalization of variability the arterial pressure (84%), reduction of degree of meteosensitivity (54%).

Discussion.— Thus inclusion of not medicamentous methods possessing the pathogenesis orientation of action and raising tolerance of the organism to external adverse influences of the weather-climatic factors.

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The influence of low power laser stimulation on vascular reactivity

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Keywords: Laser biostimulation; Vascular reactivity

Background.— The mechanism of action of laser biosimulation on tissues is unclear. Authors of publications present the positive clinical impact of low and medium power laser radiation on vascular reactivity.

Objective.— Main aim of this study was to analyse the role of vascular endothelium in laser-induced constricted by endothelin-1.

Methods.— Experiments were performed on isolated and perfused rat tail arteries of weighing 250–350 g male Wistar rats. Contractility of arteries as a response to endothelin-1 was measured for normal and endothelium denudated arteries before and after exposure to low power laser stimulation (10, 30 and 110 mW).

Results.— Laser radiation inhibits vascular smooth muscle contraction induced by endothelin-1 proportionally to the laser power. Concentration-response curves were shifted to the right with significant reduction in maximal response. Inhibitory effect was present only for arteries with normal vascular endothelium. Moreover, in the presence of L-NAME (inhibitor of nitric oxide synthesis) and ODQ (inhibitor of soluble guanylyl cyclase) inhibitory effect was not observed.

cular smooth muscle cells reactivity is reduced, moreover this effect is present only in arteries with normal endothelium.

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Cardiorespiratory responses during aquatic and land treadmill in patients with coronary artery disease

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Keywords: Coronary artery disease; Cardiovascular response; Exercise

Objective.— This study was undertaken to investigate cardiorespiratory responses elicited during exercise stress tests using an aquatic treadmill (ATM) and a land treadmill (TM) in patients with coronary artery disease (CAD).

Methods.— Twenty-one CAD patients (17 males and 4 females; average age, 59.9 years) with stable clinical status were enrolled for this study. All subjects participated in two continuous, symptom-limited incremental exercise stress protocols (ATM and TM). For the ATM protocol, ATM speed was started at 2.0 km/h, and increased incrementally to 0.5 km/h every minute thereafter. For the TM protocol, speed and grade were started at 2.4 km/h and 1.5%, respectively, and speed was increased to 0.3 km/h, and grade was increased 1% every minute thereafter. Oxygen consumption (Vo₂), metabolic equivalents (METs), heart rate (HR), and respiratory exchange ratio (RER) were measured continuously with peak values.

Results.— When comparing peak cardiorespiratory responses during ATM and TM protocols, peak Vo₂ (29.8 vs 31.1, $P = 0.11$), peak MET (8.5 vs 8.9, $P = 0.11$), and peak HR (131.9 vs 136.1, $P = 0.25$) did not show statistically significant differences. Peak RER was significantly greater in TM than ATM.

Discussion.— This study demonstrated that ATM exercise can elicit similar cardiorespiratory responses compared with LT exercise in patients with CAD.

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Effects of kinesiotaping on venous pain in postmenopausal women with chronic venous insufficiency

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Background.— Kinesiotaping (KT) is a bandaging used to increase vascular flow and diminish venous pain. This last was the aim of this study.

Methods.— A blinded randomized trial was performed. A total of 183 postmenopausal women with mild chronic venous insufficiency (CVI) (C1-C3 CEAP) were referred to the laboratory of the University of Granada (Spain) and allocated in three groups: Standardized-KT (Standard KT application to facilitate gastrocnemius muscle contraction and ankle dorsiflexion), mixed-KT (standard application & peripheral compression) and placebo (sham KT application). All taping were applied 3 times/week during one month. Pain was measure by visual analogue scale, McGill pain questionnaire and PainMatcher.

Results.— Student *t*-test showed pre-post-treatment statistical differences in standardized-KT (VAS, $P = .001$; McGill, $P = 0.011$; PainMatcher, $P = 0.001$), mixed-KT (VAS, $P = .001$; McGill, $P = 0.001$; PainMatcher, $P = 0.001$) and placebo (VAS, $P = 0.016$; McGill, $P = 0.022$; PainMatcher, $P = 0.001$). ANCOVA analyze showed significant post-treatment differences between groups (VAS, $P = .001$; McGill, $P = .002$; PainMatcher, $P = .012$).